

# ATTACHMENT II



Testing and Data Management

1101 Richfield Road □ Placentia, CA 92870 □ (714) 572-3270 □ Fax (714) 572-3274

## SAMPLE CHROMATOGRAM SUBMITTAL FORM

➔ **9308.157**

Please use this access # for technical support.

Submitted To: Ms. Laura Takach  
Wayne Perry, Inc.  
8301 West Commonwealth Avenue  
Buena Park, CA 90620

Phone #: (714) 826-0352

### RELEASE OF CHROMATOGRAMS

APPROVED BY: Girma Selassie

Date: July 18, 1997

### REFERENCE:

Client: SHELL OIL COMPANY  
WIC #: 204-1944-0100  
Site Address: Sepulveda & Venice  
Test Requested: EPA 8020 (Partial) / 8015-Mod. (Gasoline)

Total # of Pages: **47**

### FOR OFFICE USE ONLY:

Date Prepared: \_\_\_\_\_  
Date Mailed: 7/21/97  
Initials: TL

via: ☐ Certified Mail No: \_\_\_\_\_  
☒ Courier: CLI  
☐ Fed Ex Tracking #: \_\_\_\_\_  
☐ Other: \_\_\_\_\_

Crosby Laboratories Incorporated

GC #3 Results Report : Modified EPA 8015 [Gasoline] - 8020 [BTEX]

Operator :AR Unit : ppm

SampleName FM33327

Vial 27

Channel Descr. HP5890\_FID

Date Acquired 08/31/93 05:30 AM

Date Processed 08/31/93 10:01 AM

Acq Meth Set BT

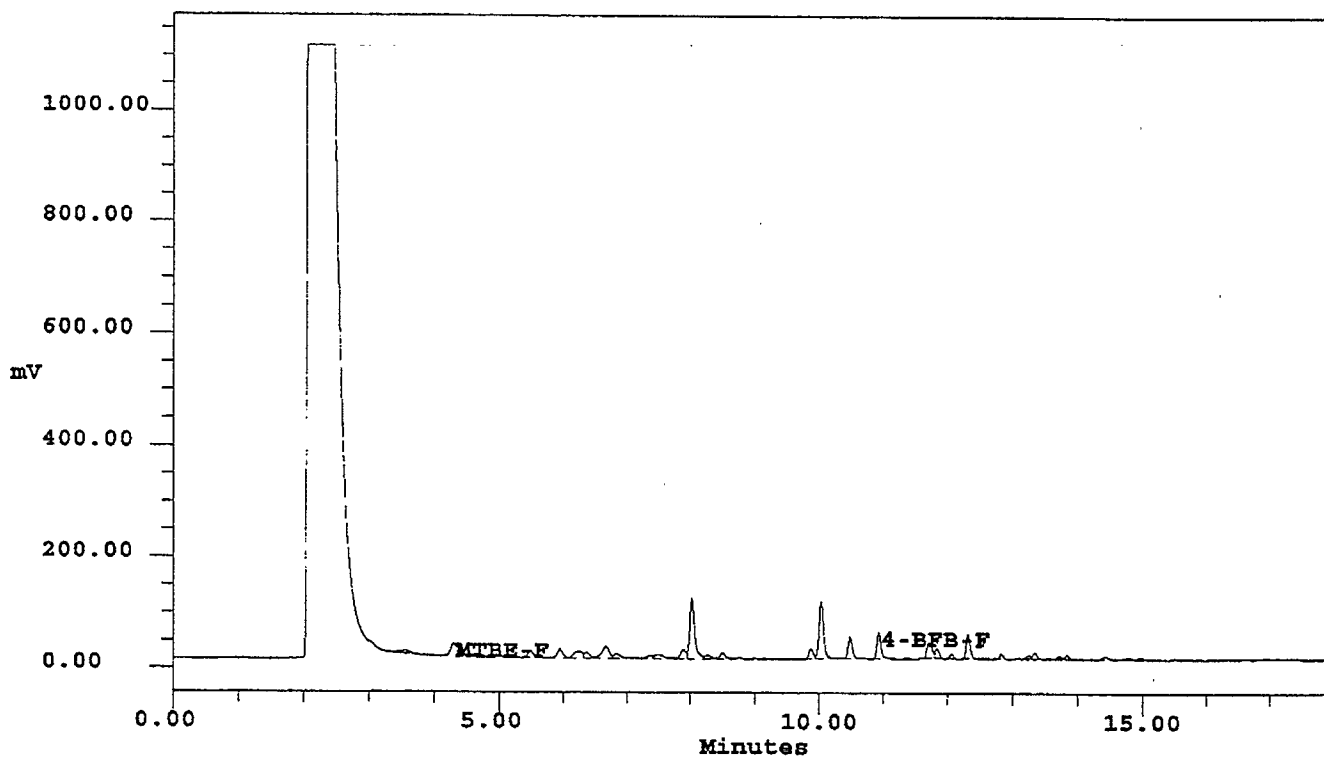
Processing Method TPH\_F

Volume 5000.00

Dilution 10000.00000

SampleWeight 0.20000

9308.157



Peak Results

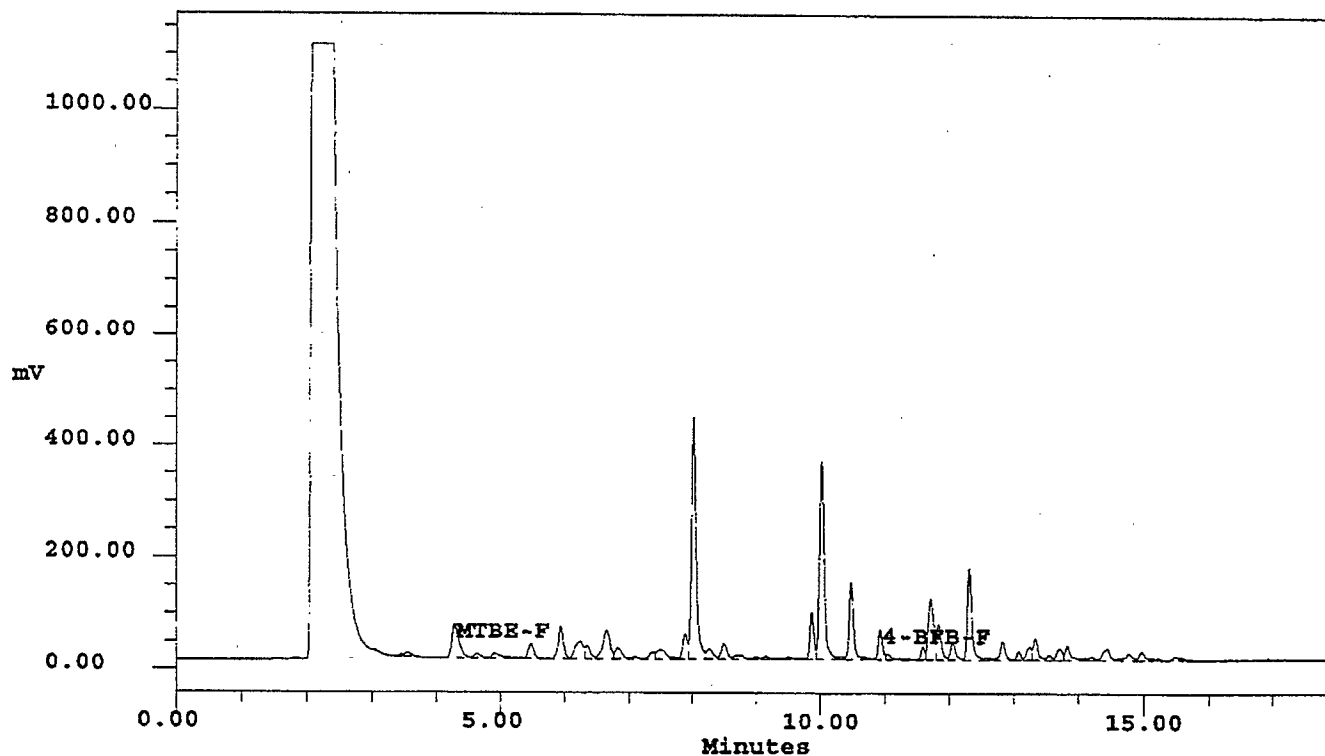
#	Name	Ret Time (min)	Area (uV*sec)	Height (uV)	Amount	Sol_Con
1	MTBE-F	4.300	210637	22769	643.6150	0.0129
2	4-BFB-F	10.933	257211	47884	852.4475	0.0170
3	TPH-L	3.450	2767367	461252	7252.2347	
4	TPH-H	11.637	862869	171381	2267.6249	

9519.8596

Crosby Laboratories Incorporated  
 GC #3 Results Report : Modified EPA 8015 [Gasoline] - 8020 [BTEX]  
 Operator :AR Unit : ppm  
 SampleName FM33324  
 Vial 25  
 Channel Descr. HP5890\_FID  
 Date Acquired 08/31/93 04:42 AM  
 Date Processed 08/31/93 10:04 AM

Acq Meth Set BT  
 Processing Method TPH\_F  
 Volume 5000.00  
 Dilution 10000.00000  
 SampleWeight 0.50000

9308.157



Peak Results

#	Name	Ret. Time (min)	Area (uV*sec)	Height (uV)	Amount	Sol_Con
1	MTBE-F	4.293	493639	61689	603.3377	0.0302
2	4-BFB-F	10.927	255533	55379	338.7537	0.0169
3	TPH-L	3.050	8587590	1500178	9001.9464	
4	TPH-H	11.313	3661592	666768	3849.0725	

12851.0189

Crosby Laboratories Incorporated

GC #3 Results Report : Modified EPA 8015 [Gasoline] - 8020 [BTEX]

Operator :AR Unit : ppm

SampleName FM33343

Vial 32

Channel Descr. HP5890\_FID

Date Acquired 08/31/93 07:29 AM

Date Processed 08/31/93 09:55 AM

Acq Meth Set BT

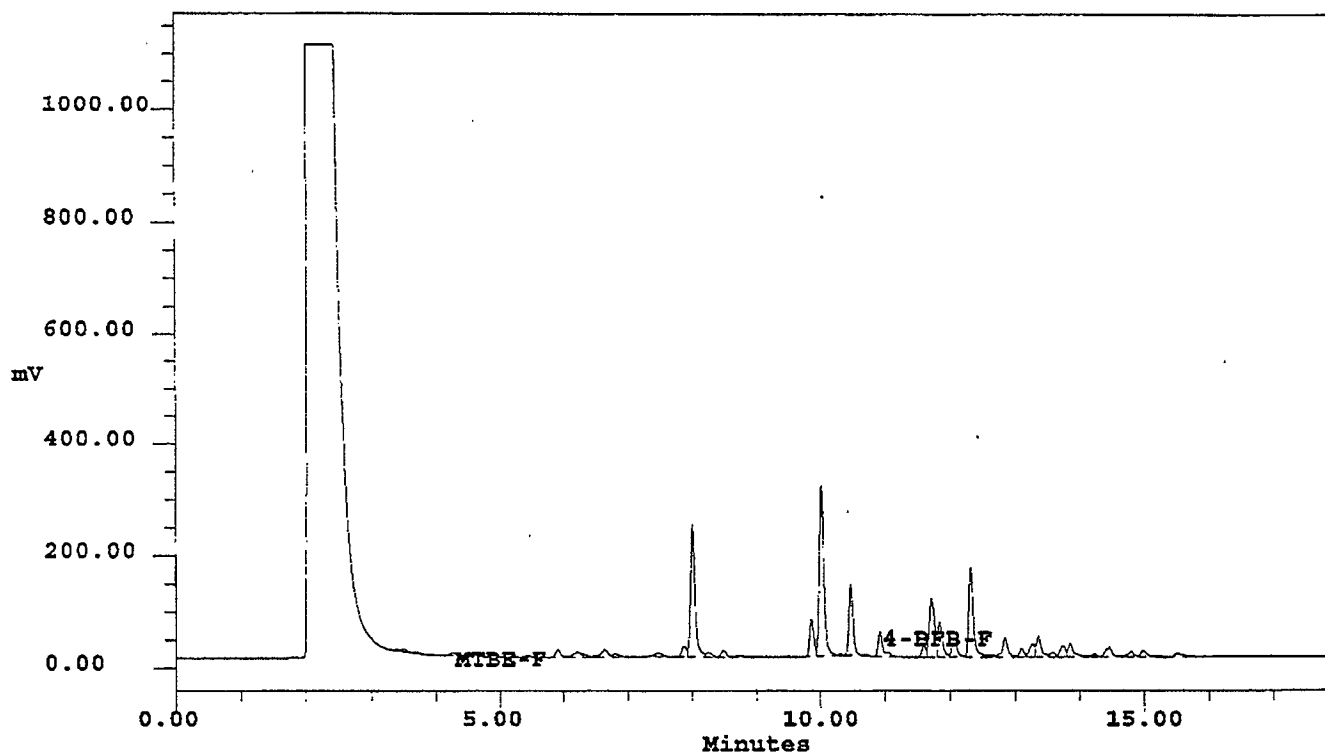
Processing Method TPH\_F

Volume 5000.00

Dilution 10000.00000

SampleWeight 0.20000

9308.157



Peak Results

#	Name	Ret Time (min)	Area (uV*sec)	Height (uV)	Amount	Sol_Con
1	MTBE-F	4.260	38721	5624	118.3133	0.0024
2	4-BFB-F	10.930	242492	44465	803.6652	0.0161
3	TPH-L	3.410	4434921	871402	11622.2719	
4	TPH-H	11.330	3445024	631601	9053.5418	

20675.8157

**SHELL OIL COMPANY**

# RETAIL ENVIRONMENTAL ENGINEERING - WEST

## CHAIN OF CUSTODY RECORD

Serial No: 518121

Date: 8-23-93

Page / of 3

Site Address:  
3801 Sepulveda Blvd Culver City, CA  
WIC#:

204-1944-0100

## Shell Engineers:

Mike Claudio

**Consultant Name & Address:**

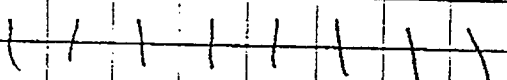
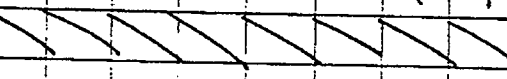
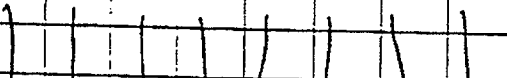
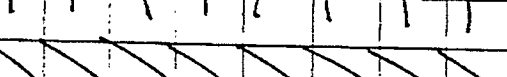
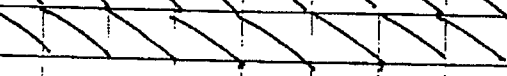

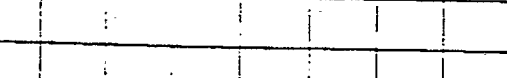
E-M 315 Arden Suite 24 Glendale  
Consultant Contact: Phone No.: 817

John Marsola's  
Comments:  
376-1090  
Fax #: -2091

LOP Report Format  
Sampled by: *Pharoah*

Printed Name: John Marsolais

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.
B-1/#5/25'	7/29/95					1
B-1/#6/30'						
B-1/#7/35'						
B-1/#8/40'						
B-1/#9/45'						
B-1/#10/50'						
B-1/#11/55'						
B-1/#12/60'						

	TPH (EPA 8015 Mod. Gas)
	TPH (EPA 8015 Mod. Diesel)
	BTEX (EPA 8020/602)
	Volatile Organics (EPA 8240)
	Test for Disposal
	Combination TPH 8015 & BTEX 8020
	TPH - Gasol (CalEPA Draft)
	Organic Lead (CalEPA Draft)
	Asbestos
	Container Size
	Preparation Used
	Composite Y/N

CHECK ONE (1) BOX ONLY	C/D/DI	TURN AROUND TIME
C/W Monitoring <input type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input checked="" type="checkbox"/>	4461	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	15 days <input checked="" type="checkbox"/>
Water Classify/Disposal <input type="checkbox"/>	4433	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify tech in soon as possible w/ 24/48 hrs TAT

UST AGENCY: LACDPULOP

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
<u>SOIL / OST / GASOLINE</u>	<u>AA33324</u>
	<u>AA33325</u>
	<u>AA33326</u>
	<u>AA33327</u>
	<u>AA33328</u>
	<u>AA33329</u>
	<u>AA33330</u>
	<u>AA33331</u>

LAB: C-ROSBY

CHECK ONE (1) BOX ONLY

C1/D1

TURB AROUND INLET

CW Mentoring 4461

Site Investigation	K-1 4441	4A hours
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Soil Classify/Disposal	[ ] 442	15.44	11.44
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Water	443	Obs.
Classify/Disposal	443	

Soil/Air Rem. or Syb.		4452
O & M		4452

Water/Rein of Sys.  
O&M [1] 453

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soon as Possible of  
24/44 hrs. 1AT

Other	11
-------	----

JUST AGENCY: LAC DPU LOP

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
----------------------	----------------------------

2012/05/11 133324

100-443886-1000

AA55326

AS3271

AA53328

0035529

ASSISTANT

↓  
A2222/

Name: Yael Vilich

Date: 6/3/20

Time: 15:58

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Grade: \_\_\_\_\_

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Source  
Firearm Site Assessment  
CAT 93





# SHELL OIL COMPANY

RETAIL ENVIRONMENTAL ENGINEERING - WEST

## CHAIN OF CUSTODY RECORD

Date: 8/23/93  
Page 3 of 3

Site Address:

3801 Sepulveda Blvd, Culver City, CA

Analysis Required

LAB: C0551

Shell Engineer:

Mike Claudio

Phone No: 714  
520-3789  
Fax #: 3812

Consultant Name & Address:

E-11 315 Anden Ave Suite 24 Glendale

Comments:

Phone No: 818  
546-2090  
Fax #: 2091

Sampled by:

LOP Robert Fornat

Printed Name:

John Marselaris

Sample ID

Date

Sludge

Soil

Water

Air

No. of  
conts.

TPH (EPA 8015 Mod. Gas)

TPH (EPA 8015 Mod. Diesel)

BTEX (EPA 8020/602)

Volatile Organics (EPA 8240)

Test for Disposal

Combination TPH 8015 & BTEX 8020

TPH-Gasoline (Cal EPA Draft)

Organic Lead (Cal EPA Draft)

Asbestos

Container Size

Preparation Used

Composite Y/N

MATERIAL  
DESCRIPTION

SAMPLE  
CONDITION/  
COMMENTS

CHECK ONE (1) BOX ONLY	C/T/D	TURN ARCHIVED TIME
C/W Monitoring	<input type="checkbox"/>	4461
See Investigation	<input checked="" type="checkbox"/>	4441
Soil Cleanup/Disposal	<input type="checkbox"/>	4442
Water Cleanup/Disposal	<input type="checkbox"/>	4443
Soil/Air Rem. or Spill	<input type="checkbox"/>	4452
O & M	<input type="checkbox"/>	4453
Wider Run or Spill	<input type="checkbox"/>	4453
O & M	<input type="checkbox"/>	4453
Other	<input type="checkbox"/>	4453

UST AGENCY:

LAC PHILLOP

Relinquished By (signature):

Printed Name:

John Marselaris

Date: 8/23/93  
Time: 1:30

Received (signature):

Printed Name:

John Marselaris

Date: 8/23/93  
Time: 1:30

Received (signature):

Printed Name:

John Marselaris



October 1993  
Project No. 92-41-2850

FUGRO & McClelland

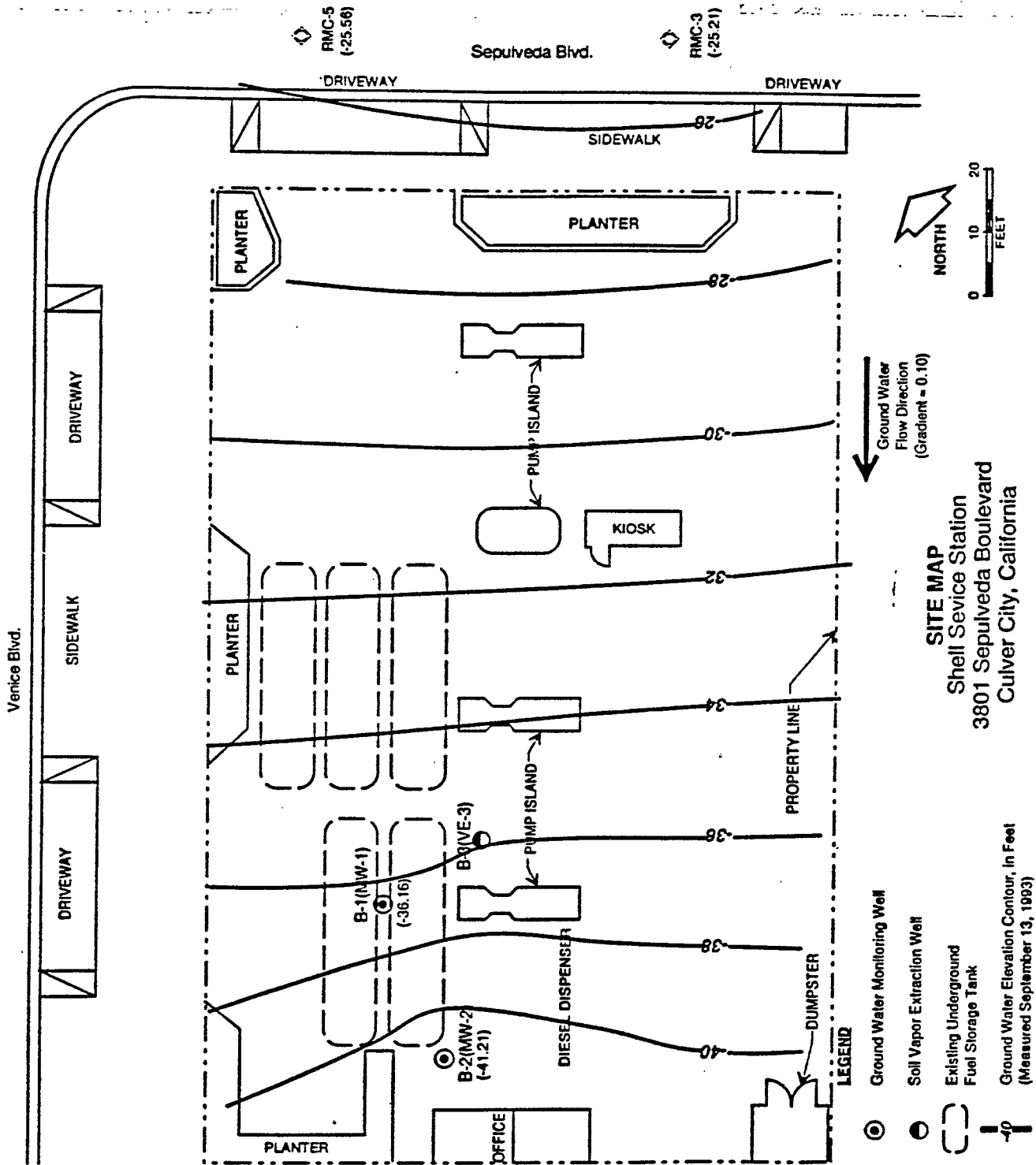
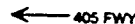


PLATE 3

00218

**Project No. 92-41-2850**



### LEGEND

- MW-3 ©

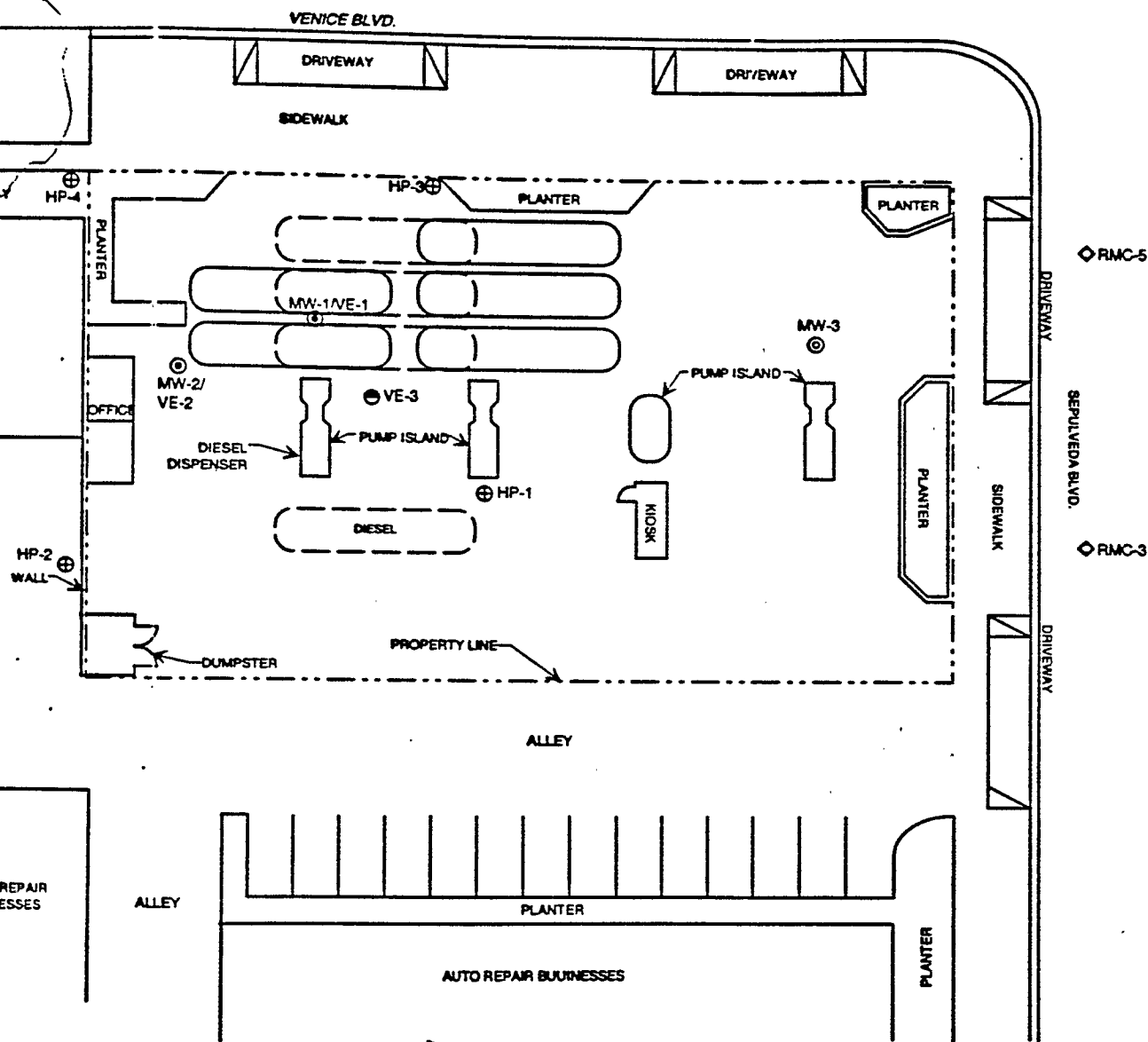
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001090

**TUGRO & McClelland**

BEGIN FRAGMENT

081000-0007-1



**VICINITY MAP**  
 Shell Service Station  
 3801 Sepulveda Boulevard  
 Culver City, California

PLATE 2

00220

# ATTACHMENT JJ

F

**FUGRO**  **McClelland**

FUGRO-McCLELLAND (WEST), INC.

**SITE ASSESSMENT PLAN**  
**SHELL SERVICE STATION**  
**3801 Sepulveda Boulevard**  
**Culver City, California**

**RECEIVED**  
NOV 30 1993  
DEPARTMENT OF PUBLIC WORKS  
WASTE MANAGEMENT DIVISION

Prepared for:  
COUNTY OF LOS ANGELES  
Department of Public Works  
LADPW Project I-7099

On Behalf of:  
SHELL OIL COMPANY

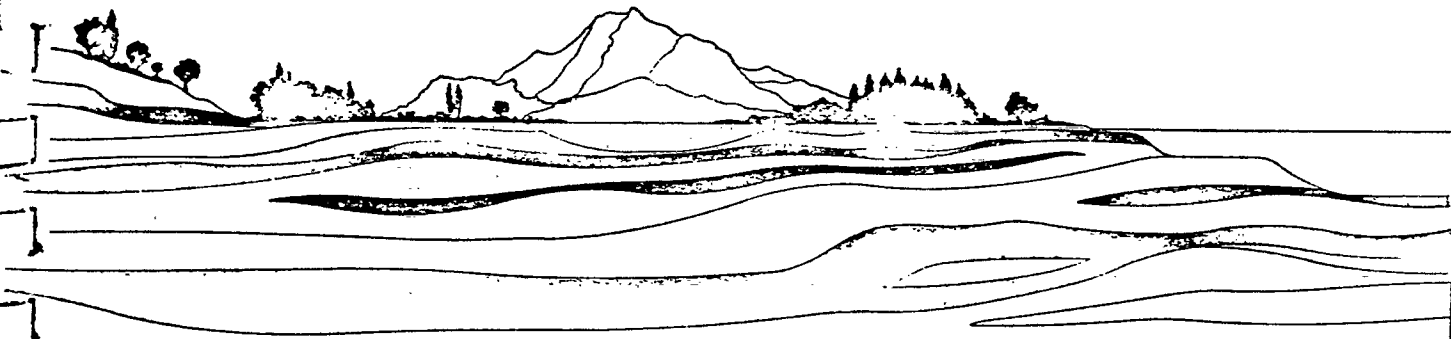
*I - 7099*  
*Clip # 34748*  
*SIR - CH 80477*

November 1993

*M.M.*

C 8

001803





**FUGRO-McCLELLAND (WEST), INC.**

November 19, 1993  
Project No. 92-41-2850  
LADPW File No. I-7099

5855 Olivas Park Drive  
Ventura, CA 93003-7672  
Tel: (805) 650-7000  
FAX: (805) 650-7010

County of Los Angeles  
Department of Public Works  
Post Office Box 1460  
Alhambra, California 91802-1460

Attention: Mr. Scott Small  
UST Local Oversight Program

Site Assessment Plan  
Shell Service Station  
3801 Sepulveda Boulevard  
Culver City, California

**Introduction**

On June 19, 1992, four 12,000-gallon-capacity fiberglass underground fuel storage tanks were removed from the Shell Service Station located at 3801 Sepulveda Boulevard in Culver City, California (Plate 1 - Site Location Map). Soil samples were collected below the tanks under the supervision of the Los Angeles County Department of Public Works Underground Storage Tank Local Oversight Program (LOP). All but one of the soil samples collected below the tanks had low to nondetectable levels of total petroleum hydrocarbons (TPH) as gasoline or diesel, benzene, toluene, ethylbenzene, and total xylenes (BTEX) and organic lead. Following the removal of the tanks, the excavation was enlarged and five new 12,000-gallon-capacity tanks were installed.

In August 1993, Fugro-McClelland completed three soil borings, two of which were completed as ground water monitoring wells, to assess gasoline impacted soil discovered during the tank removal. The results of the August 1993 assessment were presented to the LOP in a report prepared by Fugro-McClelland, dated October 11, 1993. The assessment indicated TPH-gasoline concentrations up to 20,676 parts per million (ppm) in soil beneath the former gasoline USTs. The assessment also determined that free-phase gasoline was present in ground water monitoring wells MW-2 and RMC-3 (Plate 2 - Vicinity Map). This Site Assessment Plan presents our proposal to assess the vertical and lateral extent of gasoline-impacted soil and ground water at the subject site.

Twenty-five offices nationwide in the United States

International operating companies in Australia, Belgium, Brunei, Canada, Germany, Hong Kong, Indonesia, Japan, Malaysia, The Netherlands, Saudi Arabia, Singapore, United Kingdom, and United Arab Emirates

53A70-LTRRPT.NOV

### Hydrogeologic Setting

The Shell service station is located on the southwest corner of the intersection of Sepulveda and Venice Boulevards in Culver City, California (Plate 1). On the southeast corner of the site is a Mobil service station and on the northwest corner is a Chevron service station. The northeast corner of the intersection is presently occupied by a strip mall; this site was previously occupied by a Phillips 66 service station. Surrounding land use is commercial along major streets and residential between major streets. The San Diego Freeway is about one block west of the station.

The site is located on the Los Angeles Coastal Plain. This plain is an accumulation of marine and nonmarine sediments deposited over Tertiary age bedrock. The alluvial section below the site is hundreds to thousands of feet thick. The project site is located in the southeastern portion of the Santa Monica Ground Water Basin, a hydrologic subunit of the Los Angeles Coastal Plain (California Department of Water Resources [DWR], 1961). The basin is bounded on the east by the Newport-Inglewood uplift, on the north by the Santa Monica Mountains, on the south by the Ballona Escarpment, and on the west by the Pacific Ocean.

Surface sediments in the vicinity of the project site consist of Recent alluvial sediments made up of interbedded clays, silts, and silty sands, with occasional poorly sorted gravels typical of alluvial fan deposits (DWR, 1961). The Recent alluvial section in this area consists of the Bellflower Aquiclude and the Ballona Aquifer. The Bellflower Aquiclude, which is generally considered to restrict vertical movement of ground water (DWR, 1961), extends from the ground surface to a depth of approximately 20 feet. The underlying Ballona Aquifer extends from the base of the Bellflower Aquiclude to a depth of approximately 40 to 60 feet below the ground surface. Beneath the Recent sediments lies the Lower Pleistocene San Pedro Formation. The Upper Pleistocene Lakewood Formation is not present in this area.

Ground water occurs in sediments of the San Pedro Formation at depths of 80 feet or more below the ground surface in this area (City of Los Angeles Department of City Planning, 1974). Regionally, ground water in the Santa Monica Basin flows mainly to the south towards Ballona Gap (DWR, 1961). Ground water pumping or recharge may affect local conditions. The base of fresh water bearing sediments in this area occurs at a depth of approximately 350 feet below the ground surface (DWR, 1961).

A Mobil service station east (upgradient) of the subject Shell site has reported a subsurface release of gasoline. This Mobil station, located at 3800 South Sepulveda Boulevard, Culver City (Mobil station 11-FX5) is under LADPW oversight (LADPW file I-7021). Gasoline releases reported by Mobil have impacted ground water. Up to 14 feet of free product have been identified in wells drilled as part of the assessment of that site. Wells installed offsite to the west of the Mobil station and directly upgradient of Shell have free product and detectable levels of TPH and BTEX. Based on the most recent assessment report that we reviewed (report

C  
8  
0  
0  
1  
0  
0  
5

by Remedial Management Corporation for Mobil, dated December 18, 1991), the western (downgradient) extent of gasoline hydrocarbons from the release reported by Mobil has not been defined.

#### **Previous Site Assessments**

Results of laboratory analyses performed on soil samples collected during the tank removal in June 1992 are presented in Table 1 - Soil Sample Laboratory Results - Tank Removal. The locations of the tank removal soil samples are shown on Plate 3 - Site Map.

Earth materials encountered during drilling of three soil borings in August 1993 included artificial fill and alluvium. Artificial fill was encountered in boring B-1 (MW-1, Plate 2) in the base of the former tank excavation and consisted of crushed rock. Alluvium beneath the site varied in composition with depth. From ground surface to a depth of approximately 15 feet, alluvium consisted of dark brown, moist, stiff, silty clay. From a depth of approximately 15 to 95 feet, alluvium consisted of orange brown to dark brown, moist, dense, silty sand, sand and gravelly sand with occasional thin clayey silt layers. From a depth of approximately 95 to 100 feet alluvium consisted of orange brown to dark grey, moist, stiff to dense, clayey silt and clay. A layer of grayish brown, wet, coarse-grained sand was encountered between a depth of approximately 100 and 105 feet. From a depth of approximately 105 feet to the bottom of the borings at a depth of 110 feet, alluvium consisted of dark brown and dark grey, moist, stiff, silty clay, and clay. A gasoline odor was noted in all three soil borings at various depths.

Ground water was encountered in September 1993 at a depth of approximately 98 feet. Table 2 - Ground Water Elevation Data lists the traffic cover elevation, depth to water and water level elevation for the two onsite ground water monitoring wells and Mobil wells RMC-3 and RMC-5. Based on these data, the ground water flow direction beneath the site was calculated to be to the southwest at a gradient of 0.1 (10 feet vertical per 100 feet horizontal). Free product was observed in wells MW-2 and RMC-5. Recovery of free product from well MW-2 by weekly bailing was initiated on September 20, 1993.

**Laboratory Analyses** Soil and ground water samples were analyzed for TPH-gasoline (CAL/EPA Draft Method), BTEX (EPA 8020), and organic lead (CAL/EPA Draft Method). Table 3 - Soil Sample Laboratory Results - Soil Borings, presents the results of laboratory analyses performed on soil samples. Table 4 - Ground Water Laboratory Results, presents the results of laboratory analyses performed on ground water samples.

#### **Proposed Supplemental Site Assessment**

A minimum of seven additional soil borings will be drilled to assess the lateral and vertical extent of gasoline impacted soil at the subject site. To obtain water quality data from areas that are likely within the gasoline impacted ground water plume, ground water samples will be collected from borings HP-1 through HP-4 (Plate 2) utilizing a Hydro-punch sampler.



Additionally, boring HP-2 will be continuously cored per LOP guidelines. Ground water samples collected from borings HP-1 through HP-4 will be submitted to the analytical laboratory for 24-hour TAT. If the downgradient samples HP-2 and HP-4 are contaminated, two additional "step-out" borings (HP-5 and HP-6) will be completed.

Following completion of the hydropunch sampling, three to four ground water monitoring wells will be completed at the site. The location of a proposed upgradient well (MW-3) is shown on Plate 2. Based on the results of the hydropunch sampling, two to three ground water monitoring wells will be completed in the downgradient direction. Ground water monitoring wells will be completed to a depth of 20 feet below first encountered ground water, or to the top of a clay layer greater than 5 feet thick.

All assessment activities will be performed in accordance with the site specific health and safety plan presented in Appendix A. The following organizations will be notified prior to implementation of field work: Underground Service Alert utility notification service, Shell Oil Company, and the Los Angeles County Public Works.

**Soil Boring Completion.** Soil borings will be drilled with a truck-mounted, hollow-stem auger drill rig under the direction of a Fugro-McClelland field geologist. Except for boring HP-2, which will be continuously cored, soil samples will be collected at 5-foot intervals beginning at a depth of 5 feet. Soil samples will be obtained by driving a California Liner sampler, using a 140-pound hammer dropped 30 inches. Soil samples will be recovered in stainless steel liners, sealed with Teflon sheets and plastic end caps, and placed on ice for transport to a state-certified laboratory. Prior to each sampling attempt, the sampler and sample liners will be decontaminated by washing with a nonphosphate detergent solution followed by successive rinses with potable water and deionized water.

Soil retained in the sample shoe will be visually classified and observed for signs of contamination. A field screening for volatile organic compounds will be performed on all soil samples using a Photovac Microtip photoionization detector (PID). Descriptions of the soil conditions encountered in each boring and field PID readings will be presented in boring logs.

Drill cuttings will be contained in rolloff bins. The bins will be covered, sealed, labeled and stored onsite prior to classification and proper disposal by Shell Oil Company. Shell Oil company will provide manifests and documentation following disposal.

**Hydro-punch Ground Water Sampling.** Ground water samples will be collected from borings HP-1 through HP-4 and HP-5 and HP-6 (optional) using a Hydro-punch sampler. The soil boring will be advanced until ground water is encountered. The Hydro-punch sampler will be driven approximately 18 inches below first encountered ground water, and a water sample will be collected. The Hydro-punch sampler will be cleaned before use and between borings with a nonphosphate detergent solution, followed by rinses with potable and deionized water.

**Ground Water Monitoring Well Installation.** Soil boring MW-3 and two to three additional downgradient borings will be completed as ground water monitoring wells. Well materials will be selected based on a sieve analysis, which will be performed prior to well completion. The wells will be constructed of 4-inch-diameter Schedule 40 PVC with threaded couplings. Ground water monitoring wells will be screened from a depth of 20 feet below to 10 feet above the static water level.

A filter pack will be installed in the annulus between the borehole and the screened interval of the well. The filter pack will extend from the bottom of the borehole to about one foot above the top of the screen. Hydrated bentonite pellets will be placed above the filter pack as an annular seal to a depth of 3 feet below ground surface. The annular space will be filled with concrete from a depth of 3 feet to the surface. A locking traffic rated at-grade well cover will be installed at the surface to protect the wellhead.

**Well Development.** Ground water monitoring wells will be developed with a bailer and submersible pump. The wells will be surged with the bailer prior to removing water and suspended sediment with the submersible pump. Wells will be developed until produced water has a turbidity of less than 10 NTU and at least 5 well volumes of ground water and suspended sediment have been removed. Well development and purge water will be stored onsite in 55-gallon DOT drums awaiting classification and proper disposal by Shell Oil Company. Shell Oil Company will provide manifests and documentation following disposal.

**Well Gauging.** Prior to sampling, the depth to water and the well depth will be measured in each well. Ground water depths and well depths will be measured from the top of the traffic cover to the nearest one-hundredth of a foot using an electric water level interface probe. The interface probe will be decontaminated with a nonphosphate detergent solution and rinsed with potable water and deionized water prior to use and between wells.

**Ground Water Monitoring Well Sampling.** Prior to sampling, the wells will be purged of at least 3 well volumes of ground water. Purging of the wells will be performed with a submersible pump. The pump will be cleaned before and after sampling with a nonphosphate detergent solution, followed by rinses with potable and deionized water. Purging will continue until pH, temperature, and conductivity stabilizes and turbidity measurements are below 10 NTU. Ground water samples will be obtained with a disposable plastic bailer and stored in 40 milliliter (ml) glass bottles with hydrochloric acid as a volatile organic compound preservative. The samples will be placed in a cooler with artificial ice and transported to a state-certified laboratory for chemical analysis. Proper sample handling and chain-of-custody protocol will be followed throughout this assessment.

#### **Laboratory Analyses**

Previous assessment indicates that gasoline impacted soil will not be encountered until a depth of at least 30 to 50 feet in the areas of the proposed soil borings. Consequently, we

County of Los Angeles  
November 19, 1993 (92-41-2850)

**FUGRO & McClelland**

propose to analyze only those soil samples that demonstrate field evidence of contamination (olfactory or PID readings above 50 parts per million by volume [ppmv]). At a minimum, 5 soil samples at 20-foot intervals will be analyzed from each soil boring. Soil samples will be analyzed at a state-certified laboratory for TPH - gasoline (Cal EPA TPH Draft Method) and BTEX (EPA 8020). Ground water samples will be analyzed for TPH - gasoline (Cal EPA TPH Draft Method) and BTEX (EPA 8020). Elevated levels of organic lead were not detected in soil or ground water samples collected during previous assessments, suggesting this constituent is not a concern at this site. Consequently, we do not propose to analyze samples for organic lead.

#### **Assessment Report**

An assessment report will be prepared documenting the results of the sampling and testing program. The report will provide a description of field testing methodology including any modifications from the original proposed program, tabulated analytical data, vicinity and site maps showing the calculated ground water flow direction, and conclusions and recommendations regarding any additional assessment and remediation, as warranted.

#### **Limitations**

This site assessment plan has been prepared for the County of Los Angeles Department of Public Works UST LOP on behalf of Shell Oil Company to assess subsurface conditions at a Shell service station located at 3801 Sepulveda Boulevard in Culver City, California. In performing our professional services, we have attempted to apply present engineering and scientific judgement and use a level of effort consistent with the standard of practice measured on the date of this report and in the locale of the project site for similar type studies. Fugro-McClelland (West), Inc., makes no warranty concerning any of the materials or services furnished by Fugro-McClelland (West), Inc.

The analyses and interpretations in this plan have been developed based on the results of previous assessments and the results of laboratory analyses performed on soil and ground water samples collected from borings and monitoring wells placed at discrete locations on the project site. It should be recognized that subsurface conditions can vary laterally and with depth below a given site, and that the evaluation contained herein is based solely on sampling results at the sample locations identified.

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**FUGRO & McClelland**

A circular professional seal for Thomas D. Matteucci. The outer ring contains the text "REGISTERED GEOLOGIST" at the top and "STATE OF CALIFORNIA" at the bottom, separated by two five-pointed stars. The inner circle contains the name "THOMAS D. MATTEUCCI" in a larger font and the number "No. 5196" in a smaller font below it.

- 7 -

00229

County of Los Angeles  
November 19, 1993 (92-41-2850)

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### REFERENCES

- California Department of Water Resources (DWR) (1961), *Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County*, Appendix A, Ground Water Geology Bulletin 104: California Department of Water Resources, Southern District, Los Angeles, California.
- City of Los Angeles Department of City Planning (LADCP) (1974), *Generalized Map of Depth to Ground Water, City of Los Angeles*, prepared by Engineering Geology Consultants, Inc.: in J.H. Wiggins Co. *Seismic Safety Analysis, City of Los Angeles*, prepared for the Department of City Planning, Los Angeles, California.
- Remedial Management Consultants (1991), *Site Assessment for Mobil Oil Station 11-FX5, 3800 South Sepulveda Boulevard, Culver City, California*, Remedial Management Consultants, Newport Beach, California.

88-001-99-1

County of Los Angeles  
November 19, 1993 (92-41-2850)

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**Table 1. Soil Sample Laboratory Results - Tank Removal**

Analyses Performed: Total Petroleum Hydrocarbons, Modified for Gasoline or Diesel (EPA 8015 Modified)  
Benzene, Toluene, Ethylbenzene, Total Xylenes (EPA 8020)  
Organic Lead (DOHS Method)

Sample	Data in Parts Per Million (ppm)						
	TPH Gasoline	TPH Diesel	B	T	E	X	Organic Lead
Below Underground Fuel Storage Tanks							
1A	—	ND	ND	0.20	0.13	0.60	—
1B	—	ND	ND	0.16	ND	0.33	—
2A	1987	—	17	445	122	1,040	0.5
2B	ND	—	ND	ND	ND	ND	0.6
3A	2.3	—	ND	0.17	ND	0.46	—
3B	0.6	—	ND	ND	ND	ND	—
4A	1.7	—	ND	ND	ND	0.24	—
4B	ND	—	ND	ND	ND	0.24	—
Below Fuel Dispensers and Product Lines							
D-1	30.6	—	0.05	2.1	0.2	7.1	—
D-2	27.4	—	0.05	1.4	0.08	4.3	—
D-3	ND	—	0.05	0.05	ND	0.04	—
D-4	2,212.5	—	18	73	69	930.7	—
D-5	ND	ND	0.06	0.06	0.02	0.08	—
L-1	ND	—	0.06	0.04	ND	0.04	—
Spoil Pile Samples							
SP-1, SP-5	1.2	—	0.3	ND	ND	ND	—
SP-2, SP-3, SP-4	1.0	—	ND	ND	0.15	0.36	—
SP-6, SP-7	1.2	—	ND	ND	ND	0.69	—
SP-8	ND	—	0.06	0.04	ND	0.2	—
SP-9	ND	—	0.04	0.04	ND	0.06	—
Detection Limit	0.5	10	0.005	0.005	0.005	0.015	0.5

ND Not detected  
Analysis by Crosby Labs, Inc.

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Well No.	Data in Feet		
	Elevation of Traffic Cover	Depth to Ground Water	Elevation of Ground Water
MW-1	61.16	97.32	-36.16
MW-2	61.66	102.87 <sup>1</sup>	-41.21
MW-3	59.43	84.64 <sup>2</sup>	-25.21
RMC-5	59.54	85.10	-25.56

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**2**

Table 3. Soil Sample Laboratory Results - Soil Borings

Depth Below Grade (feet)	Data in parts per million (ppm)					
	Total Petroleum Hydrocarbons (gasoline)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Organic Lead
BORING B-1 (MW-1)						
25	12,851	224.293	1,432	278.877	1,754	ND
30	1,878	15.431	167.560	36.970	256.861	ND
35	11,131	246.427	1,267	220.338	1,434	ND
40	9,520	170.438	847.768	165.436	1,290	ND
45	1,851	8.783	123.907	43.000	282.642	ND
50	1,392	7.069	97.353	34.120	235.539	ND
55	3,406	22.516	326.476	80.217	477.574	ND
60	2,021	14.322	187.602	47.200	290.699	ND
65	4,126	57.417	414.158	84.347	580.494	ND
75	2,725	18.040	221.801	62.241	365.619	ND
80	ND	ND	ND	ND	ND	ND
85	ND	ND	0.173	ND	ND	ND
90	24.9	ND	0.575	0.299	1.624	ND
95	ND	ND	0.235	0.288	1.157	ND
100	ND	0.175	0.110	0.302	1.670	ND
BORING B-2 (MW-2)						
5	ND	ND	ND	ND	ND	ND
10	ND	ND	ND	ND	ND	ND
15	ND	ND	ND	ND	ND	ND
20	ND	ND	ND	ND	ND	ND
25	ND	ND	ND	ND	ND	ND
30	ND	0.095	ND	ND	0.183	ND
35	ND	0.105	ND	ND	0.194	ND
40	ND	ND	ND	0.074	0.294	ND
45	ND	0.121	ND	ND	ND	ND
50	ND	ND	ND	ND	ND	ND
55	ND	ND	ND	ND	ND	ND
60	ND	ND	0.181	ND	0.314	ND
65	20	0.061	0.168	0.801	0.557	ND
70	8,356	146.997	941.525	186.151	1,051	ND
75	5,091	87.682	554.591	107.931	641.420	ND
80	2,027	24.957	207.714	44.223	258.153	ND
85	4,316	67.367	462.990	94.941	573.698	ND
90	9,660	139.584	879.241	181.652	1,099	ND
95	4,951	52.652	275.102	72.857	593.229	ND
105	71	1.898	6.915	1.385	8.538	ND
BORING B-3 (VE-3)						
5	ND	ND	ND	ND	ND	ND
10	ND	ND	ND	ND	ND	ND
15	ND	ND	ND	ND	ND	ND
20	ND	ND	ND	ND	ND	ND
25	20,676	135.346	1,857	575.935	3,905	ND
30	1,377	8.073	102.014	34.432	201.949	ND
35	430	7.691	31.903	5.421	54.401	ND
40	599	5.336	17.360	3.653	24.972	0.5
45	ND	ND	0.071	ND	0.220	ND
Detection Limits	10	0.005	0.005	0.005	0.015	0.5

Analyses Performed:

Total petroleum hydrocarbons, TPH-Cal EPA Draft Method modified for gasoline  
BTEX, EPA method 8020  
Organic lead, Cal EPA Draft Method



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Table 4. Ground Water Laboratory Results

Monitoring Well No.	Data in parts per million (ppm)					
	Total Petroleum Hydrocarbons (gasoline)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Organic Lead
B-1 (MW-1)	46.4	0.6685	4.6550	2.676	10.1736	ND
RMC-5	30.1	0.1779	0.5846	1.6693	7.7450	ND
Detection Limits	0.5	0.0003	0.0003	0.003	0.0009	0.5

Analyses Performed:

Total petroleum hydrocarbons, TPH-Cal EPA Draft Method modified for gasoline  
BTEX, EPA method 8020  
Organic lead, Cal EPA Draft Method

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**SITE LOCATION MAP**  
Shell Service Station  
3801 Sepulveda Boulevard  
Culver City, California

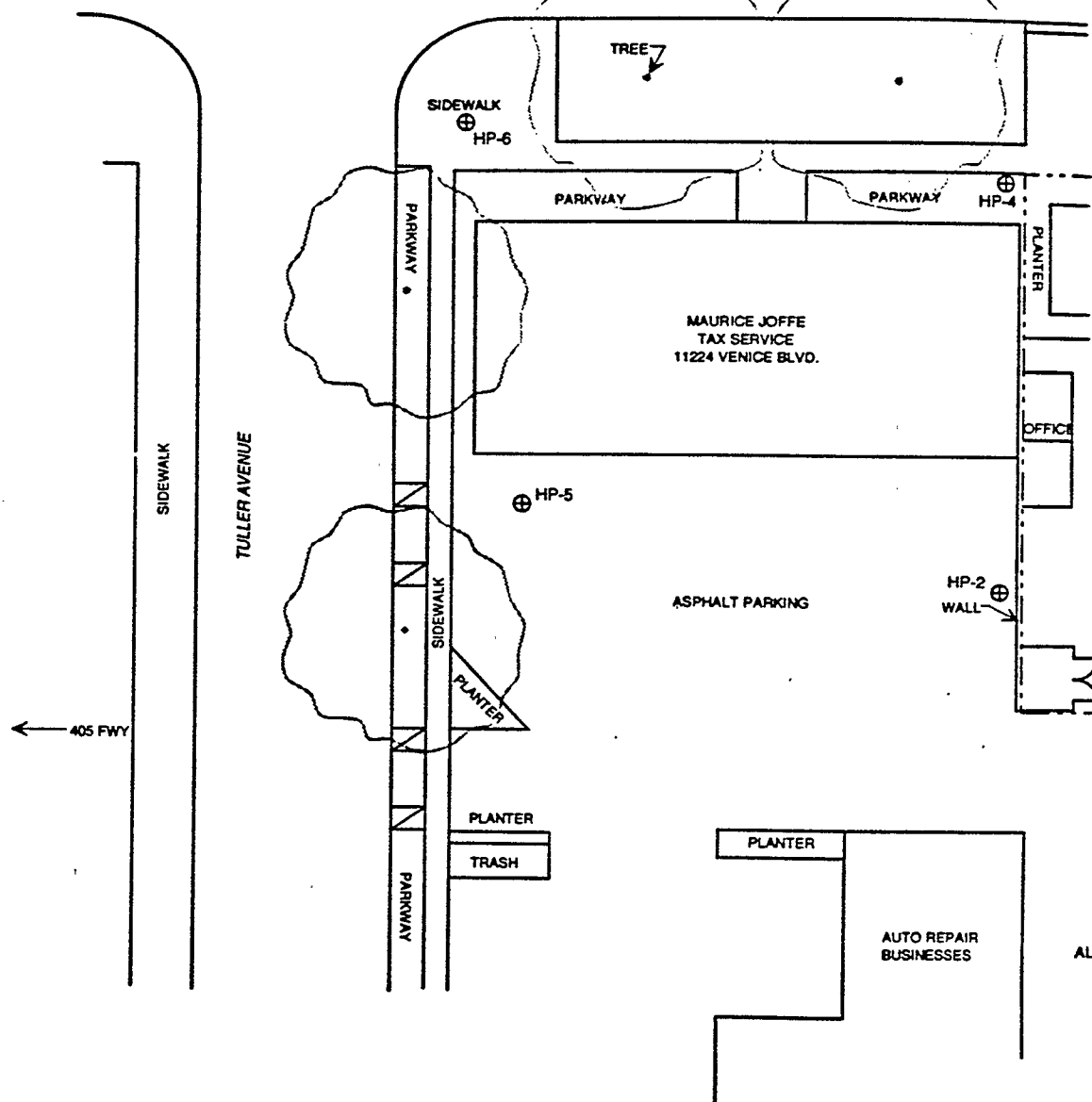
PLATE 1

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**POOR QUALITY**

Project No. 92-41-2850



### LEGEND

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|-----------|--|
| MW-2/VE-2 | Existing Ground Water Monitoring Well/<br>Nested Vapor Extraction Well |
| VE-3      | Existing Vapor Extraction Well   |
| MW-3      | Proposed Ground Water Monitoring Well                                  |

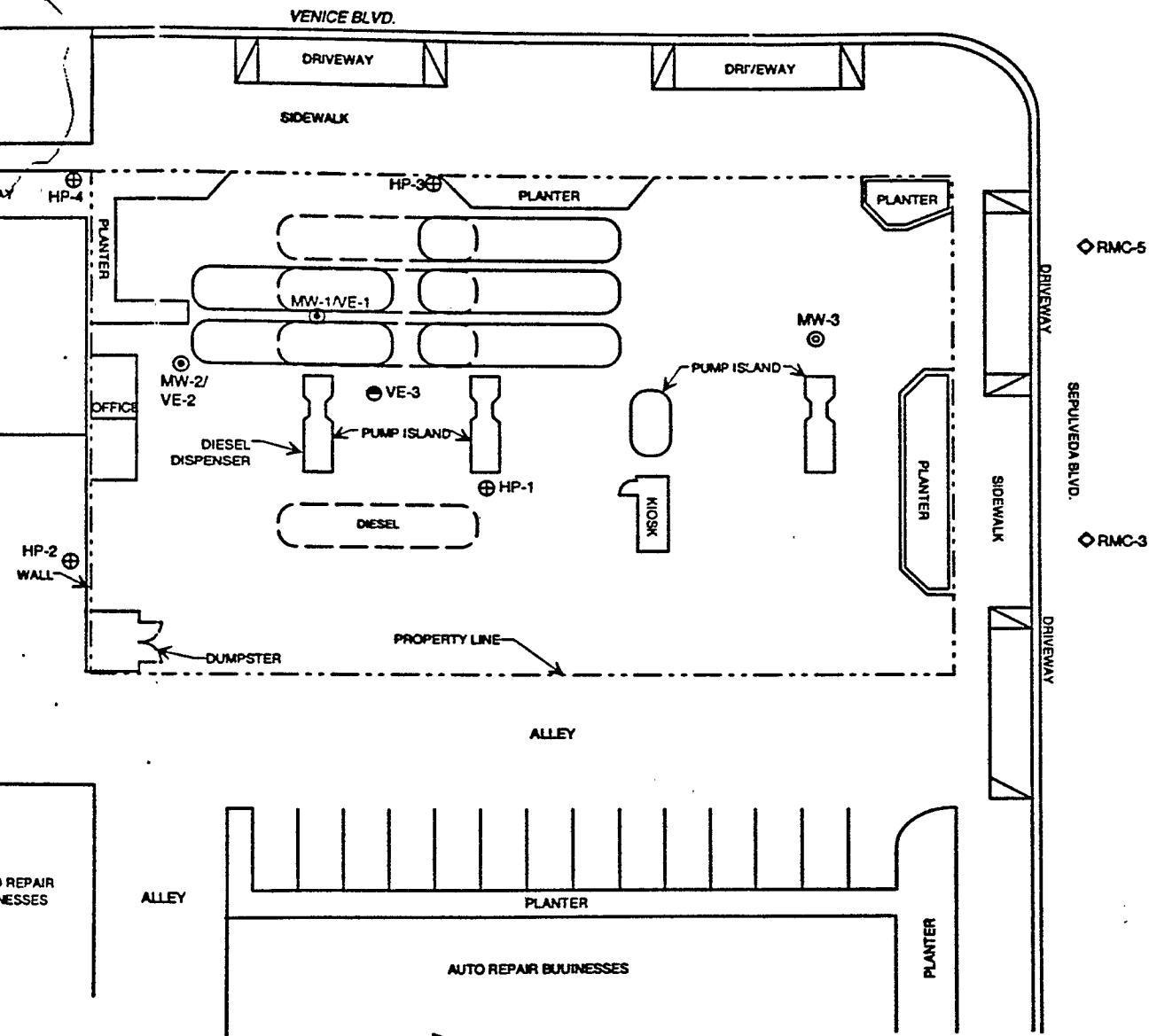
- HP-4 ⊕ Proposed Soil Boring/ Hydropunch Water Sam  
 Existing Underground Fuel Storage Tank  
 Former Underground Fuel Storage Tank

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BEGIN FRAGMENT

08/03/00 11:00 AM



VICINITY MAP  
Shell Service Station  
3801 Sepulveda Boulevard  
Culver City, California

PLATE 2

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